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the resources of temperate forests show signs of exhaustion. The defects of tropical forest for a timber industry have been explained; it is not clear why no interest has been shown in a pulping industry based on tropical trees most of which have the advantage of relatively quick natural replacement. Pulping of tropical woods may yet solve the world paper shortage, especially as woody or fibrous tropical plants might be cropped for pulping instead of depending on predatory deforestation as is the case in the pulping industries of temperate areas today.

The forests, however, supply the basic domestic fuel of the region. Apart from westernised suburbs of the town, charcoal and wood are the normal means of cooking, in which respect the domestic life continues today much as it did two or three centuries ago. Wealthier residences may use electricity which is mostly steam-generated from imported coals, but domestic coal-gas is uncommon. Domestic heating, of course, is a question which does not arise in these climates. For their illuminants the bulk of the people turn to their trees, to coconut oil, second to which is paraffin oil from within the region. Urban areas are electrically lit.

From Commodity Production to Local Processing

Because the production of primary agricultural commodities like rubber, copra, medicinal plants, and tapioca, all the basis of industrial processes elsewhere, has been the function of Southeast Asia territories over the first third of this century, culminating in an immediate prewar export valued at nearly $1,000 million per annum, processing and manufacturing of these commodities may cease to be done overseas and become the basis of industrialisation within Southeast Asia to make use of local power resources and of the margin of time available among rural populations. A tendency in this direction was very evident in Java where skill and incentive were present; rubber goods, textile printing, preparation of medicines, confectionary and refining essential oils had grown to significant proportions by 1941 and the enforced isolation of the war years should have intensified them, though a resumption of normal trading relations will oblige these industries to so organise that they meet the rival processed goods of zones as varied as India, Europe and the Far East. The influence of India as a source of manufactured goods was evident, particularly in textiles, before the war and could become even more prominent after India's

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additional expansion under the almost autarchic conditions of the war period. Political instability within India can, however, offset this advantage.

It is to be noted that the great markets for goods manufactured from Southeast Asia commodities so far have been in Europe and the United States. The little nations of Southeast Asia seem ill-prepared to absorb much of them for some years. Because food is produced in such large quantities in this typically agricultural zone, we may not overlook the possibilities of manufacturing foods in forms such as biscuits, jam and canned varieties. Hitherto the tight association with industrialised colonial powers has to some extent dissuaded intense application to the miscellany of industrial productions possible in Southeast Asia, yet the local nationalisms and the incentive to establish more balanced social and communal systems tend to encourage local industries. Burma, Siam and Indochina before the war were only lightly touched by these tendencies to manufacture.

From the point of view of the rest of the world, a re-orientation of the tremendous quantity of Southeast Asia's primary agricultural materials now handled by processing industries already established in Europe and the United States, would have major effects, not least on the ability of those industries to maintain their manufactured exports at levels which have been increasing over the last century. Thus, a nationalistic Southeast Asia driving towards self-sufficiency industrially is likely to diminish the international trade streams to and from this region, though it may progressively increase the occupational activities and living standards of Southeast Asia people.

Intra-Regional Trade

A total value of about $400 million was involved in the prewar interchange of goods and commodities between one part and another of the Southeast Asia region. This intra-regional trade was relatively small because the component units of the region produced much the same commodities and goods, by reason of which the countries tended to be rivals rather than customers of one another. An additional factor was the pull of several metropolitan areas, Britain, France, Holland and the United States, which acted to lessen intra-regional trade and to lessen the regularisation and rationalisation of production in Southeast Asia as a whole. Food

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504 River, which, though possessing adequate depth for vessels up to 30 feet in
361 draft, has a sinuous channel, which prevents ships longer than 550 feet from ascending to the port. The strong scour of the semidiurnal tides reduces the necessity for dredging. The port occupies about three miles of the right bank of the river and is divided into three sections. Overseas trade is handled by the quays between the Arroyo Chinois and the Canal de Dérivation, in the Khan Hoi district; smaller vessels use the quays nearer the city; and the naval port lies farthest upstream, close to the Arroyo de l'Avalanche. Lighters convey cargoes from ships anchored in the river below the city to wharves along the Arroyo Chinois and the Canal de Dérivation, the twin waterways that link Saigon with Cholon. Before 1939, Saigon handled about 40 per cent of the total foreign trade of Indochina; rice formed about 50 per cent by weight of the exports. At the present time the military operations taking place in the country have greatly reduced the trade of Saigon, and the rice export is only some 100,000 tons a year.

Bangkok alone of all the ports is still inaccessible to large ocean-going vessels. A bar at the mouth of the Menam Chao Phraya prevents entry, and the terminal for large vessels has long been Gaw Si Kang, an island in the Gulf of Siam east of the river mouth. From Gaw Si Kang strings of lighters are drawn by tugs to the wharves of Bangkok, which extend for about six miles along the left bank below the Grand Palace. The dredging of the bar to allow ocean-going vessels to reach the port would have presented no great difficulties, but opposition from the lightering interests prevented anything from being done until shortly before the war, when work was begun on a new port at Klong Toi, about five miles below the city. It is now proposed, as part of a plan to expand rice cultivation in Thailand, to deepen the channel so that vessels of 26-foot draft can ascend to the port. Bangkok has an almost complete monopoly of the foreign trade of Thailand, and in a real sense it is the only port of the country.

Industrial Development

32 The five cities contain a large proportion of the total industrial capacity
361 of their respective territories. Industry is well represented, though much of
● 38 it is better described as processing than as manufacturing, and its range of
39 activities is continually increasing. The primary processing of foodstuffs and raw materials is dominant; rice milling is particularly important, except in Singapore, but rubber, copra, sago, tapioca, hemp, sugar, and tobacco all assume considerable local significance. A beginning has been made with the higher stages of manufacturing, such as rubber products and even foam

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rubber, in Singapore; other manufactures are furniture, boats, footwear, glass, bricks and tiles, oils and soaps, electric batteries, and certain chemical products. Manufacturing industries proper use relatively little machinery and power and produce for the home market, in which there is a considerable element of local protection. Food and drink industries are well developed (including brewing and distilling); textiles are poorly developed. Heavy industry is confined to the repair and refitting of vessels. All the ports have forges and foundries for making minor repairs; Singapore and Jakarta, which have dry-dock facilities, can undertake more extensive work. Repair shops for maintenance of railway equipment are located in all the cities except Singapore; the assembly of imported motor vehicles is carried on in Manila, Jakarta, and Singapore. Industry relies largely on electric power, which is expensive because of the paucity of local coal supplies.

Small-scale industry is almost entirely in the hands of the Chinese; the larger undertakings are overwhelmingly European-owned, though there are some large Chinese industrial establishments. Only a small proportion of the inhabitants of the cities are engaged in industry: in Singapore, where industry is expanding rapidly, only 11 per cent of the adult working population were employed in industrial establishments in the census of 1947. This unduly low figure does not take account of the large employment in the establishments of the Armed Services, much of which was industrial.

The industrial areas lie close to the port or along the rivers and canals. They are surrounded by areas of high population density; for the relatively high cost and limited availability of public transport operate to retard the divorce of place of work and residence, which is so conspicuous a feature of the Western city. Newer industrial areas, however, are appearing on the margins of the cities, and as the range of industrial activity grows, industry is likely to become more widely dispersed.

POPULATION

All the five cities would have probably reached the one-million level in a comparatively short period if the war had not intervened. During the Japanese occupation, population decreased in the cities because of the shortage of food, and the wartime dislocation that elsewhere in Asia resulted in a large influx of rural dwellers into the cities did not operate here. With the end of the war the tide set strongly in the opposite direction. The breakdown of effective administration in many parts of Southeast Asia following the Japanese surrender, armed insurrections against the central governments, the struggle for independence, the depredations of extreme